

Chesapeake and Ohio Canal: Bridge at White's Ferry

HAER No. MD-69

At White's Ferry spanning the C & O Canal and the towpath,

35.49 miles from the eastern terminus of the C & O Canal National Park

Martinsburg Vicinity

Montgomery County

Maryland

HAER
MD,
16-MARB.V,
3-

PHOTOGRAPHS
WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
Department of the Interior
Washington, DC 20013-7127

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CHESAPEAKE AND OHIO CANAL: BRIDGE AT WHITE'S FERRY

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Location: Chesapeake and Ohio National Historical Park, at White's Ferry spanning the canal and the towpath, 35.49 miles from the eastern terminus. Martinsburg vicinity, Montgomery County, Maryland.

UTM: 18/282470/4336760
Quad: Waterford, Virginia

Dates of Construction: ca. 1920; abutments: 1865

Engineer: Engineer Hutton

Builder: Chesapeake and Ohio Canal Company

Present Owner: National Capital Parks Region
National Park Service

Present Use: Not in use. Maintained as an historic resource of the park region.

Significance: Similar in its purpose to other bridges along the canal, this bridge carried traffic over the canal to farmlands and to a ferry on the Potomac River which crossed from Maryland to Virginia. The bridge was important to trade in the area. The abandonment of this bridge can be linked to changes in America's commercial activities and transportation routes in the first half of the twentieth century. The structure's Warren metal truss exemplifies a prevalent bridge form for American bridges from the late nineteenth to early twentieth century.

Historian: Mary Kendall Shipe, 1988.

The Chesapeake and Ohio Canal dates from 1825 when it was chartered to provide a commercial connection between the eastern market and the trans-Allegheny West by means of the Chesapeake Bay and Ohio River via the Potomac River. The oldest (eastern) portion of the canal operated from 1831 to 1924. The U.S. Government acquired the canal in 1938, and it was given National Register status by the 1970s.¹

The building of the canal on the right-of-way land purchased by the Chesapeake and Ohio Canal Company presented many challenges, one of which was the blocking of lands and commercial ferry crossings at many points along the Potomac River. The need for vehicular crossings above and below the canal became evident in the plan for the canal. Culverts underneath the canal often sufficed for passage, but bridges above the canal provided another solution. At times, culverts would fill up with debris from run-off, barring passage. For this reason, bridges proved more economical particularly when located at the more important river crossings that carried greater traffic loads. Bridges also accommodated larger vehicles carrying cargo and goods as a bridge height had fewer restrictions than the height of a culvert. Another purpose of a bridge across the canal was often to facilitate travel for those who owned land between the river and the canal that was under cultivation or used for grazing.

A ferry crossing was located near the Bridge at White's Ferry before 1800. Originally named Conrad's Ferry, it was later renamed White's Ferry after the Civil War. Since the construction of the canal in this area blocked access to the crossing, a culvert which carried some drainage functioned as a passage to the ferry crossing in the 1830s. This culvert (No. 49) silted up, creating the need for an "all-weather"² bridge which was constructed by 1865. The estimate for the original wood bridge at this location was \$980.³ This first bridge at the site was defective in design; sections required reworking, repair and/or change.

By 1876, the canal company decided to construct a new bridge at White's Ferry. The engineer of the project, Engineer Hutton, estimated a cost of \$2,000 for building a "suitable" iron bridge.⁴ Prefabricated members of the bridge allowed for erection on site although the manufacturer neglected to drill holes

¹ For further information on C & O Canal history, see Walter Sanderlin, The Great National Project, (Baltimore: The Johns Hopkins Press, 1946).

² National Capital Park Region, National Register Nomination: "C & O Canal National Historical Park," August, 1979, p. 37.

³ Edwin Bearss, The Bridges of the C & O Canal (Denver Service Center, National Park Service, 1968), p. 89.

⁴ Ibid., p. 110.

for some of the connections which caused some delay. The opening of the bridge to traffic occurred in June, 1876. This bridge was in use until 1924 when a flood caused the end of canal operations.

Based on an assessment of the riveted rigid construction of the extant bridge it is believed that the present structure replaced the 1876 bridge sometime after 1920.⁵ It is a single span Warren pony truss. The structure is a "true" Warren truss in that it has equilateral triangles.⁶ The diagonals in this bridge act in both compression and tension. A vertical member, is located in the middle of each end triangle of the truss. The width of the bridge is fourteen feet. The bridge is placed approximately eleven feet above the canal towpath. Red sandstone abutments, twenty feet wide, provide an aesthetically pleasing approach to the bridge. The sandstone quarry at Seneca, located in the vicinity of White's Ferry near milepost twenty-three, probably supplied the material for the abutments. The abutments date back to 1865 when they supported the earlier wood structure which the 1876 cast iron bridge replaced.

The bridge at White's Ferry exemplifies the need for vehicular structures that was created by canal construction at points along the canal where commercial and agricultural pursuits had been long established on the river. In form, the structure typifies the Warren truss, a popular metal truss in America from the late nineteenth to the early twentieth century, and demonstrates the use of local materials through its Seneca sandstone abutments. Today, the bridge, no longer in use, is maintained as a historic resource of the C & O Canal National Historical Park and parallels the present day road leading to White's Ferry, which continues to service area residents and commuters.

⁵ An historic plaque at the site inaccurately dates the bridge to the year 1876. However, this particular form of bridge with rivetted connections is not seen until the early twentieth century.

⁶"Bridge Truss Types," Technical Leaflet, AASLH, T. Allen Comp and Donald Jackson, p. 9.

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